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Title:		SYSTEM FOR MAINTAINING HYDROGEN PURITY IN ELECTRICAL GENERATORS AND METHOD THEREOF		

APPEAL BRIEF – SUBSTITUTE SECTION 5

Sir:

This document is in response to the Notification of Non-Compliant Appeal Brief dated 30 January 2009. A substitute Section 5 for the Appeal Brief filed on 22 December 2008 is provided. The substitute Section 5 now summarizes independent Claim 10 and all erroneous references to cancelled Claim 1 have been removed.

Respectfully submitted,

CANTOR COLBURN LLP

Applicant's Attorneys

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By: /D S Christensen Reg. No. 40955/

Dave S. Christensen
Registration No: 40,955
Customer No. 23462

Address: 20 Church Street, 22nd Floor, Hartford, CT 06103-3207
Telephone: (860) 286-2929
Fax: (860) 286-0115

5. SUMMARY OF CLAIMED SUBJECT MATTER

Independent Claim 10 is directed to a system for maintaining hydrogen purity in an electrical generator. The system includes a hydrogen generator. See Figure 2 having a system 10 with a hydrogen generator 24 and paragraph [0021]. The system further includes a hydrogen cooled electrical generator coupled to receive hydrogen gas from the hydrogen generator by a gas conduit. See Figure 2 having a generator 12 coupled to the hydrogen generator 24 by a gas conduit 26, and paragraph [0021]. A vent line is directly fluidly coupled to the electrical generator on a first end and open to the atmosphere on a second end. See Figure 2 having a vent line 19 and paragraph [0021]. A valve is coupled to the vent line between the electrical generator and the vent line second end. See Figure 2 having a valve 20 and paragraph [0021]. The system also includes a hydrogen purity monitor operably coupled to the electrical generator and the valve. See Figure 2 having a purity monitor 18 and paragraph [0021]. The hydrogen purity monitor includes a means for transmitting a signal to the valve. See Figure 2 having a communications link 17, and paragraph [0021]. The system also includes a pressure transducer fluidly coupled to the conduit, where the pressure transducer transmits a signal to the hydrogen generator when the gas pressure in the electrical generator falls below a first threshold. See Figure 2 having a pressure transducer 30 and paragraph [0023]. The hydrogen generator produces hydrogen gas in response to the pressure transducer signal. See Figure 5 having a method 60 with a step 70 where the hydrogen generator 24 produces hydrogen gas in response to the pressure transducer 30 detecting a drop in pressure, and paragraph [0030].

Dependent Claim 11 depends directly from Claim 10 and is directed to a system where the valve releases hydrogen gas from the electrical generator to the atmosphere when the valve receives a signal from the hydrogen purity monitor. See Figure 2 having a valve 20 coupled by a communications link 17 to a purity monitor 18, and paragraph [0021]. See also Figure 5 having a method 60 including the steps of monitoring hydrogen purity in step 64 and opening a valve 20 in step 68, and paragraph [0029].

Dependent Claim 12 depends directly from Claim 11 and is directed to a system

where the hydrogen generator generates hydrogen gas at a second threshold pressure. See Figure 5 having a method 60 with a step 70 where the hydrogen generator 24 produces hydrogen gas to raise the pressure in the electrical generator 12, and paragraph [0032].

Dependent Claim 13 depends directly from Claim 12 and is directed to a system having a hydrogen generator that is an electrochemical generator having a polymer electrode membrane. See Figure 2 having a hydrogen generator 24 and paragraph [0022].

Dependent Claim 15 depends directly from Claim 13 and is directed to a system having a pressure monitor coupled to the electrical generator. See Figure 2 having a pressure monitor 16 connected to an electrical generator 12 and paragraph [0020].

Dependent Claim 16 depends directly from Claim 15 and is directed to a system having a hydrogen purifier coupled to the electrical generator. See Figure 2 having a purifier 22 coupled to the electrical generator 12, and paragraph [0018].

Dependent Claim 17 depends directly from Claim 12 and is directed to a system where the signal is provided to the valve when the purity of the hydrogen gas in the electrical generator is less than 99% pure. See Figure 2 having a valve 20 coupled to an electrical generator, and Figure 5 having a method 60 with a step 66 where the hydrogen purity it compared to a preferred purity level and step 68 where a control signal is passed to valve 20. See also paragraph [0028] and paragraph [0029].

Dependent Claim 18 depends directly from Claim 12 and is directed to a system where a signal is provided to the valve when the purity of the hydrogen gas in the electrical generator is less than 95% pure. See Figure 2 having a valve 20 coupled to an electrical generator, and Figure 5 having a method 60 with a step 66 where the hydrogen purity is compared to a preferred purity level and step 68 where a control signal is passed to valve 20. See also paragraph [0028] and paragraph [0029].

Independent Claim 28 is directed to system for maintaining hydrogen purity in an electrical generator. The system includes a hydrogen generator having a means for disassociating water into hydrogen and oxygen gas. See Figure 2 having a system 10 with a

hydrogen generator 24, and paragraph [0022]. The system further includes a hydrogen cooled electrical generator coupled to a turbine where the hydrogen generator is fluidly coupled to transfer hydrogen gas to the electrical generator by a gas conduit. See Figure 2 having a generator 12 coupled to the hydrogen generator 24 by a gas conduit 26, and paragraph [0021]. The system includes a vent line with a first end directly coupled to the electrical generator and a second end fluidly coupled to the atmosphere. See Figure 2 having a vent line 19 with one end connected to the electrical generator 12 and the second end open to the atmosphere, and paragraph [0021]. A valve is coupled to the vent line between electrical generator and vent line second end, the valve being arranged to release hydrogen gas at a predetermined pressure level. See Figure 6 having a method 80 and a step 92 where the valve 20 opens when the pressure is greater than a relief pressure. The system also includes a hydrogen purity monitor coupled to the electrical generator and the hydrogen generator. See Figure 3 having a purity monitor 18 coupled between the electrical generator 12 and the hydrogen generator 24, and paragraph [0025]. The system further includes a pressure transducer coupled to the conduit where the pressure transducer transmits a signal to the hydrogen generator when the gas pressure in the conduit falls below a threshold. See Figure 3 having a pressure sensor 30 and paragraphs [0023] – [0024].

Dependent Claim 29, which depends directly from Claim 28, is directed to a system having a hydrogen generator that produces hydrogen gas at a predetermined rate in response to a signal from the pressure transducer. See Figure 2 having a pressure transducer 30 and a hydrogen generator 24, and Figure 6 having a method 80 that includes a step 88 that generates hydrogen gas at a predetermined flow rate, and paragraph [0034].

Dependent Claim 30, which depends directly from Claim 28, is directed to a system where hydrogen gas is released by a valve when the gas pressure in the electrical generator exceeds 100 psi. See Figure 2 having a pressure transducer 30 and a hydrogen generator 24, and Figure 6 having a method 80 that includes a step 91 that compares a pressure relief setting to the pressure of the gas in electrical generator 12, and paragraphs [0035]-[0037].

Dependent Claim 31, which depends directly from Claim 29, is directed to a system where the hydrogen generator is an electrochemical generator having at least one polymer electrode membrane. See Figure 2 having a hydrogen generator 24 and paragraph [022].